

‘Major gift’ endows new food, water lab

J-WAFS to be interdisciplinary effort

By Austin Hess
EDITOR IN CHIEF

MIT alumnus Mohammed Abdul Latif Jameel '78 has provided a “major gift” to establish the Abdul Latif Jameel World Water and Food Security Lab (J-WAFS) according to an MIT press release.

In the release, MIT said the lab would focus on research related to addressing global water scarcity and food shortages. The lab will also reportedly support related research on “population growth, urbanization, and climate variability.”

MIT said the lab will begin operations in September 2014 under the leadership of mechanical engineering professor John Lienhard. According to his website, his current research interests include desalination,

water supply, and energy.

MIT President L. Rafael Reif said in a statement that the food and water issues at the center of J-WAFS’s future research were among “the most pressing challenges facing humanity.”

Lienhard said that the research would take place “all over campus” in participating faculty members’ current laboratories and workspaces.

MIT emphasized the interdisciplinary nature of the new lab. Lienhard said in the statement that part of the lab’s focus would be to organize existing water and food supply research. In an email to *The Tech*, he said the focus of J-WAFS would be “[U]sing our best assessments of regional drivers of water and food

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TAMI FORRESTER—THE TECH

Laura Y. Zhang '15 and Joshua 'Muffin' Gordonson mud wrestle at Senior House's Steer Roast this Friday. Other events included numerous musical performances over the weekend as well as a feast Saturday afternoon.

No. 6 rejoins IFC after years away

Six-year stint as an ILG ends following house, IFC votes

By Alex Delmore and Austin Hess
TECH STAFF

MIT’s fourth oldest fraternity, The Number Six Club (No. 6), has rejoined the Interfraternity Council after being an Independent Living Group for almost six years. No. 6, MIT’s chapter of Delta Psi, had left the IFC in 2008 due to disagreements over the Clearinghouse system used during Rush.

The decision to rejoin the IFC was the result of a vote by No. 6’s house members. “We also still wanted to consult with our alumni, particularly the ones who made the decision to leave [the IFC],” said Steven “Jeremiah” Collins ‘16, one of No. 6’s co-presidents. “There was a unanimous vote of approval to rejoin the IFC, with the exception of one abstainer.”

According to IFC President Haldun Anil ‘15, the co-presidents of No. 6 approached him because they felt they lacked “adequate

representation” with their previous affiliation and hoped to become part of the IFC. Anil said, “I told them that basically because our values align pretty closely that it would be relatively simple and straightforward for the IFC to advocate on their behalf as well, in addition to the rest of the fraternity community.”

Anil said the IFC “had a unanimous vote of approval to admit them back into the IFC.”

“Culturally, we really fit in with the IFC,” said No. 6’s other co-president, Eva “Niki” Edmonds ‘15. “Within the IFC there’s a lot of focus on how a fraternity reinforces its values.” Edmonds said that No. 6’s values include the love of learning and mutual improvement. She also said that through the IFC, there is more support for hosting social events than there is through the Living Group Council.

Edmonds also said, “unlike the ILGs, we are responsible to a national organization.” Collins added,

“I think we just structure ourselves very much like a fraternity, and have trouble relating to ILGs.” Edmonds cited a focus on alumni connections and an organized system for Rush events (including the new Clearinghouse system) as benefits of fraternity status not available to ILGs.

“Their culture, their social scene, their values fit in better with the fraternity community as opposed to the ILG community,” said Anil. “So it just felt like a logical re-merger, especially since we... talked through their concerns with Clearinghouse, which they don’t have anymore.”

No. 6 left the IFC in 2008 primarily because they believed that the IFC’s Clearinghouse system, an online portal that allows fraternities to track freshmen during Rush, was a violation of the freshmen’s privacy.

The Clearinghouse system has been changed since 2008, relieving No. Six’s concerns, according to Collins. While the old system

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IN SHORT

Join MIT Commuter Connections for Bike Awareness Day 2014 on Wednesday, May 14 from 11:00 a.m. to 2:30 p.m. on the steps of the Student Center. Register your bike with MIT Parking and Transportation. You can also participate in the Mass Commuter Challenge to get free giveaways, including helmets, leg bands, lights, and popcorn.

There is an MIT community meeting to learn more about MITnano Tuesday, May 6, 2-3 p.m. in 10-250.

Send news information and tips to news@tech.mit.edu.



ASIAN DANCE TEAM SPRING SHOWCASE

Exhibition of contemporary and traditional dances.

PHOTO SPREAD, p. 6

MACHINE SPEAK

Q.E.D. shows how to communicate with our robot overlords.

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SENIOR SPRING

The fleeting feeling of the end of MIT, by Somewhere on the Search for Meaning.
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THE END OF TIKI-TAKA?

What Champions League semis have to say about strategy. SPORTS, p. 11

NFL SCHEDULE CHANGES

Prime time changes coming this year. SPORTS, p. 12



LENNY MARTINEZ—THE TECH

Fernando F. Cunha '16 races for the fastest lap with his electric go-kart. Students in 2.007, Design and Manufacturing, gathered to race go-karts that they had built over the semester on Saturday, racing in both head-to-head ten-lap races as well as competing for fastest individual lap times.

Study reveals sizable increase in diabetes among children

By Catherine Saint Louis
THE NEW YORK TIMES

For years doctors have warned of a rising epidemic of diabetes among children. Yet there has been surprisingly little firm data on the extent of this disease among younger Americans.

Now a nationally representative study has confirmed that from 2001 to 2009 the incidence of Type 1 and Type 2 diabetes drastically increased among children and adolescents across racial groups.

The prevalence of Type 1 diabetes increased 21 percent among children up to age 19, the study found. The prevalence of Type 2 diabetes among those ages 10 to 19 rose 30 percent during the period.

Those are “big numbers,” said Dr. Robin S. Goland, a co-director of the Naomi Berrie Diabetes Center at Columbia University Medical Center in New York, who has been in practice for about 25 years. “In my career, Type 1 diabetes was a rare disease in children, and Type 2 disease didn’t exist. And I’m not that old.”

The analysis, published Saturday in JAMA, the journal of the American Medical Association, includes data from more than 3 million children younger than 20 in five states — California, Colorado, Ohio, South Carolina and Washington — as well as from selected American Indian reservations.

The research was funded by the Centers for Disease Control and Prevention and the National Institutes

of Health and is part of a continuing study, Search for Diabetes in Youth, examining the condition among children.

In Type 1 diabetes, a patient’s immune system attacks cells in the pancreas that make insulin, a hormone required to control blood sugar levels. Historically, children affected by the disease were more often white.

But the new report found the prevalence also has increased among black and Hispanic youths.

“I don’t understand the basis for an increase,” said Goland, who was not involved in the research. “There are a few possibilities, but we need to figure it out if it’s something in the environment or something in our genes.”

Mixed verdict in Apple-Samsung patent fight

By Brian X. Chen
THE NEW YORK TIMES

SAN JOSE, Calif. — A federal jury said on Friday that Apple and Samsung had infringed each other’s patents on some mobile devices, a split decision in the latest court fight between the two technology giants.

The jurors found that at least some Samsung devices infringed two of four patents at issue. The judge in the case, Lucy H. Koh, had already ruled that Samsung infringed a fifth patent.

For infringing the patents, the jurors concluded, Samsung must pay Apple \$119.6 million in damages, far below the \$2 billion that Apple had demanded in total.

The Galaxy S3, the cellphone that is one of Samsung’s flagship products, accounted for the biggest portion, contributing \$52 million of the damages.

The jurors decided that Apple violated one of the two Samsung patents at issue, awarding Samsung \$158,400 in damages. It had sought \$6 million for both patents combined.

The verdict and damages, which were being reviewed by the lawyers for the two sides, are not big financial blows to Samsung or much of a gain for Apple, two of the world’s most successful consumer electronics companies. And the decision does not give any clear momentum to either company in their continuing patent disputes, which have spanned several years and countries.

In 2012, Apple won its first big patent fight against Samsung, and Samsung still owes \$930 million in damages.

Militants kill dozens of Muslims in northeastern India, police say

NEW DELHI — At least 28 Muslims have been killed in three separate attacks on western villages in the northeastern Indian state of Assam, where long-simmering tensions have pitted members of the Bodo tribal group, who are demanding a separate state, against non-Bodo residents, including Muslims.

At least 17 of those killed in the attacks Thursday and Friday were women, and three were children, according to the police. The first attack was on two houses in the Baksa district, where three people were gunned down by militants wielding AK-47s, according to the police in Assam. In the second attack, on houses in the Kokrajhar district, eight were killed and three were injured.

The third attack, on Friday in Baksa, was the most brutal. According to the police, militants descended on a village bordering a national wildlife sanctuary, set 35 Muslim-owned houses on fire and shot at least 17 people.

Police official A.P. Raut said the attacks were committed by militants with the National Democratic Front of Bodoland, a group that has been fighting for a separate state for decades. He said many militants lived in camps in the forest outside the villages.

—Nida Najar and Hari Kumar, The New York Times

Subway train derails in Queens, injuring 19

NEW YORK — The F train slithered across Woodside, Queens, without incident at first, its passengers bound for jobs and late-morning appointments in Manhattan and Brooklyn. But as the train hurtled past the 65th Street station, passengers said, the ride turned earthquakelike: Standing passengers tumbled to the floor, the train ground to a stop and travelers peered through the car windows to find themselves listing to the left of the tracks.

In fact, the authorities said, the middle six cars on the eight-car train had derailed, causing 19 injuries — four “potentially serious,” according to the New York Fire Department — and setting off a wide-scale effort to reach about 1,000 passengers who were stranded underground.

“Nobody really knew whether or not the train was going to roll,” said Bryan Greene, 30. “Everyone was waiting for that moment to come, and when it didn’t, it was a sigh of relief.”

The rescue lasted about two hours, as emergency personnel ducked into the dim subway tunnel to shepherd passengers out of the cars, onto the tracks and along a steep climb through an emergency exit leading to the street.

Officials said some of the injuries appeared to involve chest pains and shortness of breath, not body trauma, and none are believed to be life-threatening. It was unclear what caused the derailment, the most serious on the New York City subway system since 1991, according to transit officials.

—Matt Flegenheimer and Edna Ishayik, The New York Times

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An article about Joan Jonas in the Tuesday, April 29 issue of *The Tech* incorrectly stated that the her work at the Venice Biennale would be multimedia. In fact, the nature of Jonas's exhibition is not yet known.

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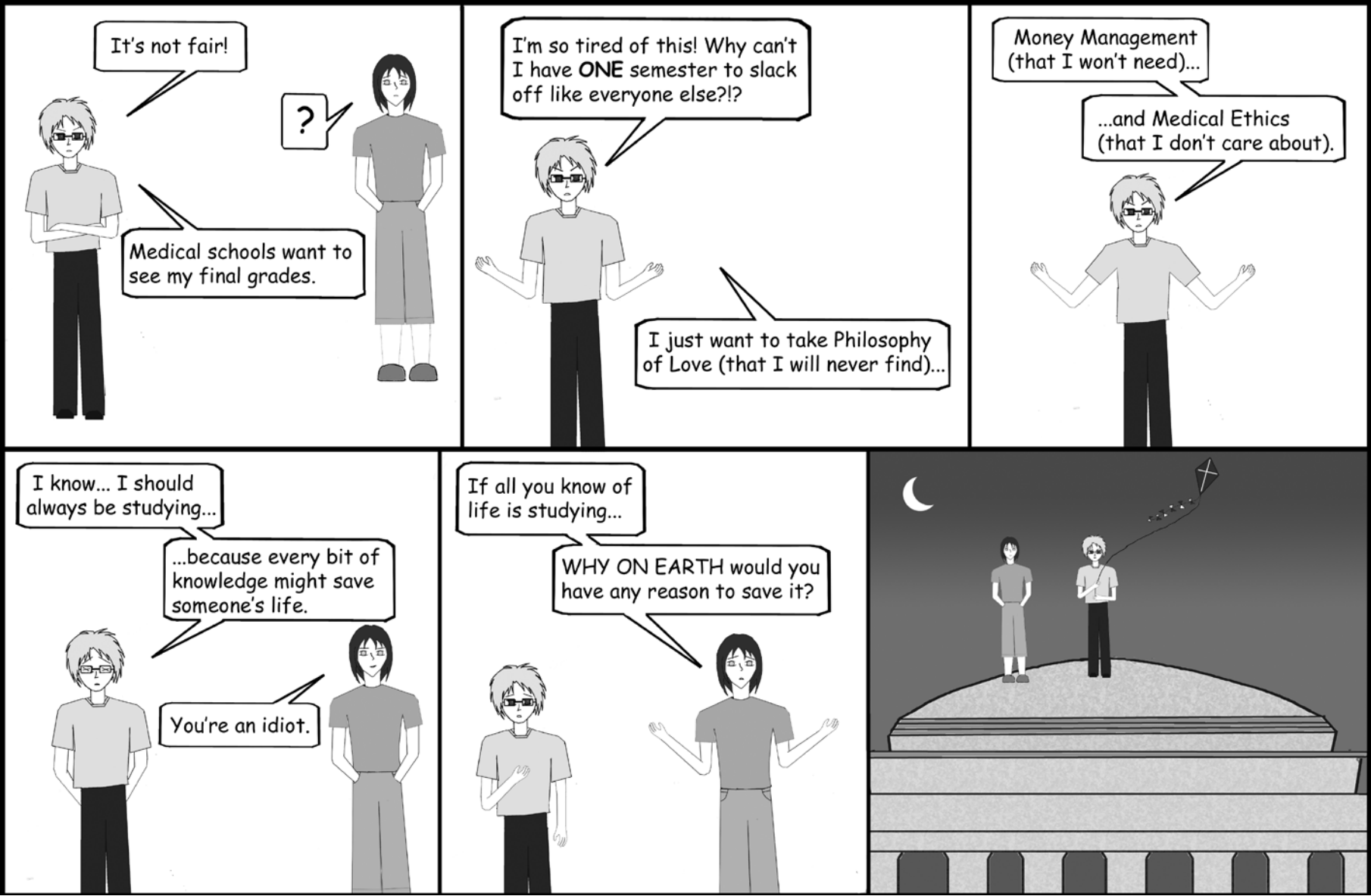
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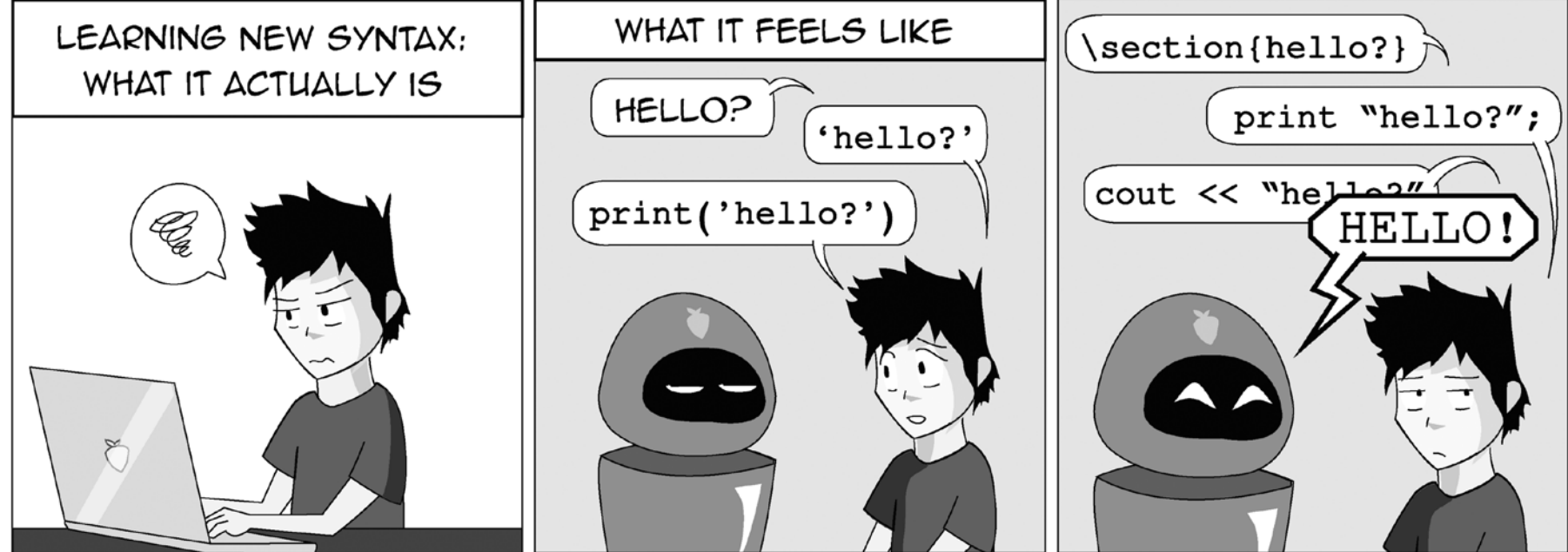
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Somewhere on the Search for Meaning... by Letitia Li



Q.E.D. (QUITE EASILY DONE)

BY ERIKA TRENT



WWW.QEDCOMICS.COM

Saturday Stumper by Anna Stiga

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ACROSS

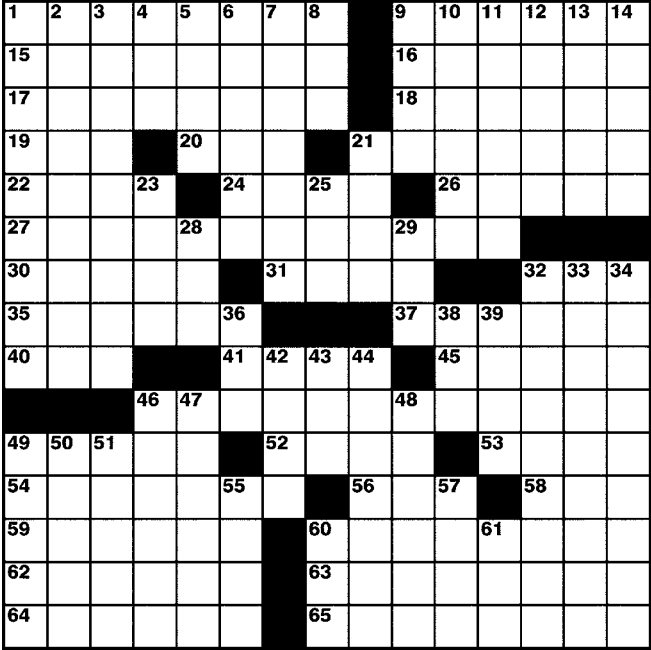
- 1 It may take you home
- 9 Confront
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- 19 Aching
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- 3 Portrayer of 20 Across in films
- 4 Since, on some signs
- 5 Six before Francis

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- 9 See 40 Across
- 10 Earliest-born Grammy recipient
- 11 Scheherazade narratee
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- 13 __ oil
- 14 Subdues, with "down"
- 21 Extent
- 23 Extent
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- 29 Traces a profile, perhaps
- 32 It's heard in Doctor Zhivago
- 33 59 Across fan, quite possibly
- 34 Where to buy posts, gates and fences
- 36 Therapeutic shampoo additive
- 38 Tony-winning musical role for 1980
- 39 Gate crashers



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- 50 Marketing medium
- 51 Staple of fusion cuisine
- 55 A lot
- 57 Haircuts at Google
- 60 Do your part
- 61 Knock off



MIT ADT's Spring 2014 showcase: "Checkmate"

TAMI FORRESTER—THE TECH

- 1. Weilian Chu '17 dances in "Baddest Female."
- 2. Ladies of MIT Asian Dance Team perform a Dai ethnicity piece from the Yunnan Province of China.
- 3. Carlos Domene '15 performs in a piece set to the music from the soundtrack of the Disney movie *Mulan*, following a story of honor, duty, conflict and self-sacrifice.
- 4. Joy C. Chen '15 embarks on a journey as Mario during the Senior Interlude.
- 5. Beipeng Mu G (left) and Xiaoyue Xie '14 (right) use fans and handkerchiefs to emulate the beauty of the orchid flower in a Ji-aozhou Yangge piece.
- 6. Members of MIT Lion Dance Group entertain the audience with a dance sequence that incorporates elements from many regions of China as well as modern choreography.
- 7. Ladies of MIT Asian Dance Team present an adaptation of a dance of the Uyghur people from the western China region of Xinjiang.
- 8. Students from Westwood Chinese School perform "Maiden Warriors", a Chinese classical piece showcasing the agility and grace of ancient Chinese warriors.
- 9. Tina Zheng '16 (left) and Beipeng Mu G (right) along with other performers in "Resonant Drums" present a Han ethnic piece using sharp movements combined with the striking of drums.

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EVENTS

MAY 06 – MAY 12

TUESDAY

(5:30 p.m. – 7:00 p.m.) Taste of India, with free food, performances, and dances, hosted by MIT Sangam and the GSC Activities Committee — Walker Memorial

(7:30 p.m. – 9:30 p.m.) MIT Chamber Music Society Jazz Combos Concert, sponsored by Music and Theater Arts — Killian Hall

WEDNESDAY

(11:00 a.m. – 12:30 p.m.) MIT Police Laptop Tagging and Registration, \$10 cash or MIT cost object per item, sponsored by IS&T Computing Help Desk — Lobby 10

THURSDAY

(12 p.m. – 1 p.m.) Energy 101 Session: An Introduction to Oil and Gas, sponsored by the MIT Energy Club — E51-325

(5 p.m. – 7 p.m.) Comparative Media Studies/Writing and the MIT Game Lab host Philip Jones and show his documentary “Gaming in Color” — E14-633

FRIDAY

(5:30 p.m. – 7:00 p.m.) MIT D-Lab Spring Showcase and Open House — N51, 3rd floor

(8 p.m. – 11 p.m.) LSC shows Blue is the Warmest Color, tickets for sale in Lobby 16 for \$4 — 26-100

SATURDAY

(12 p.m. – 4 p.m.) Family Day at the List: Graphic Text Workshop, family-friendly tour at 2 p.m., free and open to all — E15

(8 p.m. – 10 p.m.) MIT Concert Choir and Orchestra: Verdi Requiem, free in advance via Eventbrite, \$5 at the door — Kresge auditorium

SUNDAY

(11:30 a.m. – 2:00 p.m.) BBQ and frisbee to celebrate Lag BaOmer with MIT Hillel — Kresge lawn

(7:30 p.m. – 9:30 p.m.) MIT Vocal Jazz Ensemble performs the music of Irving Berlin — Killian Hall

MONDAY

(4:15 – 5:15 p.m.) Nuclear and Particle Physics Colloquium, with speaker Simona Murgia from UC-Irvine — 26-414

(6 p.m. – 7 p.m.) Texas Culture Night, sponsored by the Technology Policy Students Society — NW86-185 (Sid Pac seminar room)

Send your campus events to events@tech.mit.edu.

No. 6 back in IFC after votes

No. 6 women now IFC’s only female members

No. 6, from Page 1

allowed fraternities to see all the events attended by a given freshman, each fraternity can now only see what events each freshman attended at their own house.

Fraternities can also see if a freshman is currently checked into an event at another fraternity. “This system is functional, and much less invasive in terms of privacy,” said Collins.

No. 6 will be participating in Rush in the fall of 2014. Edmonds and Collins noted that No. 6’s Rush events will not change much from previous years, with the exception of minor changes to abide by the IFC’s standard Rush regulations. They said that being a member of the IFC conveys the values and culture of No. 6 more accurately to incoming freshmen. “From a Rush perspective, it’s a lot easier for people get an accurate representation of us as a fraternity,” said Edmonds.

According to Anil, there is

currently no provision for a fraternity re-joining the IFC after disaffiliating, meaning No. 6 must go through the IFC’s new member procedure.

Becoming a new member of the IFC entails a process of going through three stages. The first stage is associate membership; associate members cannot vote at IFC meetings and they only pay half dues. Next, the new member becomes a probationary member, then a full member. In order to progress through the stages, the new member needs a vote of fraternity presidents.

The entire process takes about fifteen months. No. 6 will have to go through these stages in order to rejoin the IFC as a full member.

“We are exploring some other ways for perhaps facilitating the process in the future for members that were members in the past,” said Anil, “but as it currently stands, that is the only real way to become a member.”

No. 6 is now one of two co-ed MIT fraternities in the IFC

along with Tau Epsilon Phi (tEp), but tEp’s national organization, and therefore the IFC, only recognizes its male members. The only women currently represented by the IFC are members of No. 6.


No. 6 became a co-ed fraternity in 1969. When asked about being referred to as “brothers” in IFC proceedings, the presidents of No. 6 did not express concern. “It’s not meant to be a statement; it feels more like a functional word. There’s a little bit of strangeness because we’re such a minority, but that’s not intentional or too much of an issue,” said Edmonds.

Anil said that no concerns over gendered words in IFC documents had been raised, but said, “If women of No. 6 or No. 6 as a whole express concern about it, we will address that.”

Anil said he does not know of any other ILG planning to join the IFC, but said he would be open to the idea if their values aligned with the IFC’s.

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Solution to Crossword

from page 5

B	A	S	E	P	A	T	H	R	E	S	I	S	T	
O	N	E	S	I	D	E	D	I	D	U	N	N	O	
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J-WAFS lab to fund food, water research

Planned as multi-field MIT effort

J-WAFS, from Page 1

scarcity in conjunction with MIT’s strengths in engineering, science, urban planning, and social science, to understand how best to meet the growing demand for food and water in a rapidly changing world.”

In an email to *The Tech*, MIT Vice President for Research Maria T. Zuber said, “This activity is intended to engage current MIT faculty and there is no plan to hire additional faculty. We know of many outstanding MIT faculty who are interested in problems that fall within the scope of the lab so we think interest will be very high.”

Lienhard said that since the announcement had not been made to the faculty, no faculty members have yet been able to join the lab. He added, “But I know from many years of discussion with my colleagues that interest in water and food sustainability is strong, and that they have a lot of insight to these issues and many remarkable ideas for further work.”

In MIT’s statement, Robert C. Armstrong, director of the MIT Energy Initiative, said J-WAFS would “complement” much of the energy research at MIT.

Zuber differentiated the mission of J-WAFS from the work of MIT’s development-focused D-Lab and Abdul Latif Jameel Poverty Action Lab (J-PAL): “The work of J-WAFS will be very complementary to that of D-Lab and J-PAL. D-Lab deals with design of technology to help people in poverty. J-PAL uses

randomized evaluations and, policy studies and training to fight poverty. J-WAFS will combine science, engineering, urban planning and policy to combat ever-increasing scarcity of clean water and food.”

Lienhard said that the lab would begin recruiting undergraduate researchers “very soon.”

The donation, meant to support research on global water security and food supply at MIT, is not the first for Jameel. He also established the Abdul Latif Jameel Poverty Action Lab (J-PAL) with a donation in 2005 and expanded it with another contribution in 2009 according to MIT.

According to Zuber, “Mr. Jameel happened to see a presentation by John Lienhard concerning a report John and I wrote about how MIT could contribute solutions to major problems in the environment, that prominently featured water and food. He later contacted John to learn more and became convinced that MIT could make major contributions towards improving lives by bringing MIT’s capabilities to bear on these issues.”

In MIT’s release, Jameel said that his time as an undergraduate at MIT inspired him to endow J-WAFS to “help find solutions to two of the biggest problems facing mankind.”

According to MIT, Jameel is President and Chairman of the Abdul Latif Jameel Group (ALJ), which serves as a Toyota and Daihatsu distributor in the Middle East, Europe, and Asia, among other activities.

Lazarus remembered

Scientist’s career spanned 5 decades

Lazarus, from Page 1

vestigator, and which is scheduled for launch in 2018.

In addition to his research position, Lazarus was a senior lecturer in MIT’s Department of Physics. He cared deeply about his students and worked to bring delight to their learning experiences, in the first- and second-year physics courses taken by all MIT students (8.01 and 8.02), and by working to develop innovative teaching methods. He ran a modern laboratory course for physics majors that introduced students to techniques of classical and modern physics, and served as co-director of MIT’s Integrated Studies Program.

Always ready to share his experience and love of MIT, Lazarus was a caring and devoted faculty advisor to many students over the years. In 1963 he was the first recipient of MIT’s Everett Moore Baker Award for Outstanding Undergraduate Teaching. From 1977-1980 he was MIT’s Associate Dean of Students in Charge of Freshman Advising, where he was instrumental in the creation of the Undergraduate Academic Support Office. In 1998 he received the Department of Physics’ William W. Buechner Faculty Award for Teaching.

Lazarus was a beloved colleague to his MIT compatriots, to the many graduate students and senior thesis students he mentored, and to the wider space physics community, nationally and internationally. “I really can’t think of another person in our field who would so frequently bring a smile to people’s faces as they remembered a time he helped them out, often as a student or post-doc just getting started, and often without asking or expecting anything in return,” says Justin Kasper, Professor at the University of Michigan, formerly of the Kavli Institute.

“He really would help anyone who asked.”

Lexington, Mass., was Lazarus’ home for 42 years. He was an active member of the community, serving as an elected Town Meeting member for 30 years and on various town boards and committees, from Appropriations to Hanscom Field Advisory. He was chair of the group that founded LexMedia, the town television station. He was also deeply interested in the town schools, especially in their teaching of science, and he served on the school system’s Science Advisory Council and as a judge for the high school’s science fairs.

Lazarus enjoyed swimming, sailing, and the rich atmosphere of MIT’s collegial community. He loved music, art, and culture, good food and drink, and the company of friends and family. He is survived by his wife of 43 years, Marianne; his daughter, Julia of Providence, R.I.; his sister and brother-in-law Louise and Pieter de Vries of San Rafael, Calif.; a nephew; three nieces; and their six children. He will be missed by his many friends and colleagues, who gathered in Lexington on April 12 in celebration of his life.

To commemorate Lazarus’ dedication and devotion to advising and mentoring students, and to recognize him as a champion of faculty engagement with students, the Alan J. Lazarus (1953) Excellence in Advising Award has been established to be awarded annually to an MIT faculty member who has served as an excellent advisor and mentor to freshmen, and who has had a significant impact on their personal and academic success. Those who wish to make a gift in support of this award may do so by contacting Bonny Kellermann ’72, MIT Director of Memorial Gifts, at bonnyk@mit.edu or 617-253-9722.

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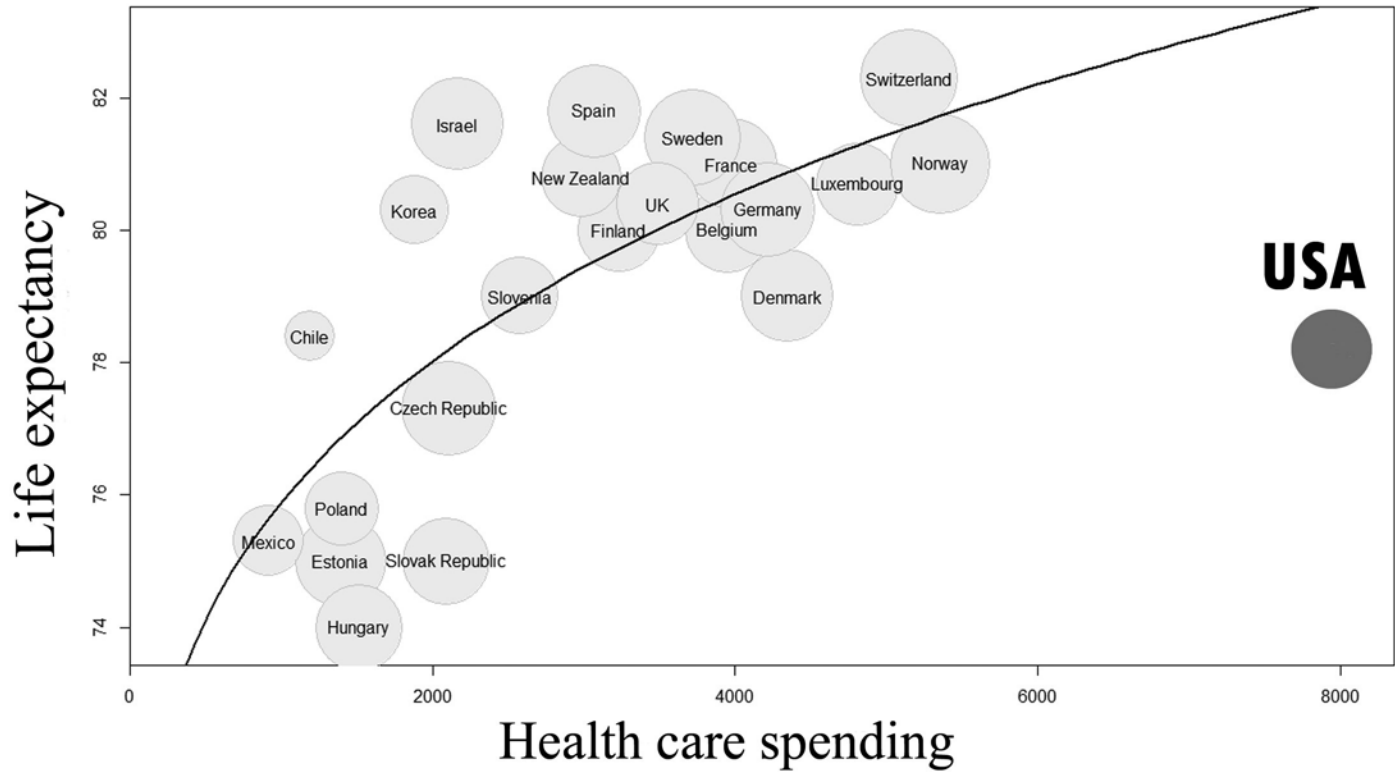
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The era of the tiki-taka may be coming to an end

Mourinho's decision to park the bus is the primary factor in Chelsea's elimination

Soccer, from Page 12

job. He had won enough individual and team honors to certify himself as one of the best managers in the game. Everyone was expecting Guardiola's Bayern Munich to continue the previous year's domination.

Initially, it looked as if Guardiola would repeat last year's success. His team claimed the Bundesliga in record time with a record of 25 wins and two ties in the first 27 games of the league. However, their Champions League run was shaky. They had managed to get through to the semifinals, but a recent Manchester United squad managed to scare them, and they struggled to capitalize against a ten-man Arsenal along the way to semifinals.

The major blow to Guardiola came in the second leg, when Real Madrid beat Bayern Munich 4-0 in Munich. This was Bayern Munich's worst home loss in European cup history. Bayern Munich's honorary president had criticized Guardiola of focusing too much on passing and not enough on attacking. He was right in his criticism.

Guardiola's tactic worked in Barcelona because his players had learned to play that way starting at a youth level. The players in Barcelona were tailored for the tiki-taka system. The player group in Bayern Munich, on the other hand, was not accustomed to playing with such emphasis on control and short passing. Bayern Munich's two wingers, Arjen Robben and Franck Ribery, are arguably two of the best wingers outside of Real Madrid. These players are not accustomed to such plays, preferring attacking and a fast build-up rather than a slow build-up, which

the tiki-taka relies on.

They want to have an open field to take on opponents, as their explosiveness and creativity gives them the upper hand. They are not able to use these traits when the build-up takes too long, as with the tiki-taka. Thus, one major criticism specifically to Guardiola's tiki-taka at Bayern Munich is that it failed to bring the best out of his players. This means that the tiki-taka is not for everyone, but does not necessarily imply that the tiki-taka is not what it once was.

Nevertheless, this is an important point – the perfect tactic is relative. While teams should not rely on tactical systems rather than individual players, the tactical systems should be tailored to fit the player group available.

However, the way the tiki-taka has fared with some of Europe's best in the past two years should offer signals that the tiki-taka's fallâ from grace is apparent. Since its rise, there have been instances in which the tiki-taka has failed to succeed. Guardiola has faced 52 different teams and managed to win against each of them except for Chelsea. This means that Chelsea has been doing something right.

When Guardiola's Barcelona faced Guus Hiddink's Chelsea in the 2009 semifinals, the aggregate was 1-1, and Barcelona advanced on away goals. In the 2012 Champions League semifinals, Roberto Di Matteo's Chelsea achieved a 1-0 win and a 2-2 tie to eliminate them. In addition to these eliminations, Jose Mourinho's Inter managed to eliminate Guardiola's Barcelona in the 2010 semifinals with a 3-1 win and a 1-0 loss. This year, Tata Martino's Barcelona lost to Atletico in the

quarterfinals, and Guardiola's Bayern was crushed by Real Madrid in the semifinals. If one analyzes these losses, the weaknesses in the tiki-taka system become apparent.

The tiki-taka system requires a lot of patience, as the team that employs it looks to find one opening in the opposing team to play a through ball. Therefore, if teams make moves to try and overtake possession, they become vulnerable for a through ball. Instead, if teams look to cover up space and apply pressure that way, the tiki-taka team fails to find the passes it needs, which most recently happened with Bayern Munich against Real Madrid.

Obviously playing such defensive and counter-attacking soccer is extremely hard. Therefore, the tiki-taka works against most teams, but high quality teams have begun to effectively counter the tiki-taka. Thus, the tiki-taka has slowly but surely lost prominence. This is especially true for European soccer as teams like Real Madrid, who look to cover up space and then immediately counterattack, or Atletico Madrid, who apply pressure and limit the passing options, have begun to triumph over the tiki-taka system.

Barcelona will still continue to be a threat in the European championships, but it may not be the force it once was prior to the turn of the decade. As for the tiki-taka, perhaps the defining moment will be the 2014 World Cup. If Spain fails to make an impact in this tournament and stays out of the semifinals, the soccer community might as well look to find a new dominant strategy.

Parking the bus

The second major point that the second

leg matches put forward is the disadvantages of parking the bus. Jose Mourinho's Chelsea opted to only defend in the first leg of the match to avoid conceding a goal. They did not attempt to search for a goal at all, and it cost them. Instead of parking the bus, had they looked to score, they might have actually scored, and that away goal could have altered both teams' approaches to the second match.

The away goal rule exists to incentivize teams to not look for goals in away matches. When teams don't do that, soccer fans are forced to watch a boring game, and the team loses a valuable 90 minutes that they could have used to search for at least one goal. Mourinho has gotten what he's wanted out of parking the bus in previous matches, but it didn't pay in this year's semifinals, as Chelsea have no one to blame but Mourinho in going out to Atletico Madrid.

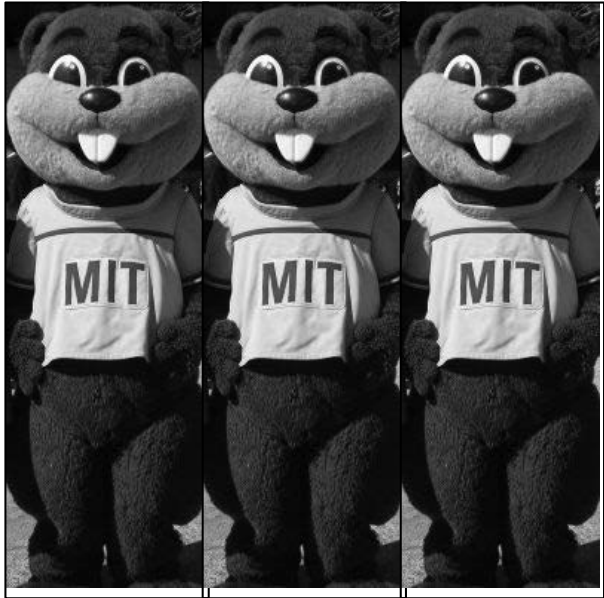
Diego Simeone, on the other hand, showed his tactical genius by applying the same tactic he has used throughout the tournament. He collected the fruits of his tactics with a decisive 3-1 win in London. I hope that this match showed that Mourinho and other managers should not simply focus on defending in matches, but look to attack as well.

While soccer fans continue analyzing these games and discussing key concepts, they should also look forward to enjoy what is left of the soccer season. Aside from the Champions League, the Europa League final will take place on May 14, as Portuguese Benfica will face off against Spanish Sevilla. This last month of club soccer will definitely provide a thrilling segue into the World Cup!

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